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EXPERIMENTAL PROGRAMS IN THE JUNIOR COLLEGE.

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AN EXAMINATION OF 29 STUDIES REVEALS A GREAT VARIATION IN THE PROCEDURES AND FINDINGS OF THESE INVESTIGATIONS INTO EXPERIMENTAL EFFORTS IN JUNIOR COLLEGE CURRICULA AND INSTRUCTIONAL PROCEDURE. HOWEVER, THE STUDIES USUALLY DID ONE OF FOUR THINGS--(1) CONSIDERED PROGRAMS AT A NUMBER OF INSTITUTIONS, (2) SUMMARIZED THE RATIONALE AND PROCEDURE OF AN EXPERIMENTAL PROGRAM, (3) COMPARED DIFFERENT INSTRUCTIONAL APPROACHES, OR (4) REPORTED ON A CONTROLLED EXPERIMENTAL RESEARCH PROJECT. TWO STUDIES DEMONSTRATED THE EFFECTIVENESS OF TELEVISION AS AN INSTRUCTIONAL DEVICE. ONE STUDY OUTLINED THE METHODOLOGY OF AN AUDIO-TUTORIAL COURSE IN LIBERAL-ARTS BIOLOGY. ANOTHER REPORTED ON A STUDY OF A REMEDIAL READING PROGRAM FOR LOW-ABILITY STUDENTS. ANOTHER CONSIDERED THE INFLUENCE OF CLASS SIZE ON TEACHING EFFECTIVENESS. THERE REMAINS A NEED FOR EXPERIMENTATION FOR THE PURPOSE OF SYSTEMATICALLY ASSESSING THE QUALITY OF JUNIOR COLLEGE INSTRUCTION. (A BIBLIOGRAPHY OF THE DOCUMENTS REVIEWED IS INCLUDED.) THIS ARTICLE WAS PUBLISHED IN "JUNIOR COLLEGE RESEARCH REVIEW," VOLUME 1, NUMBER 5, JUNE 1967. (AD)

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A periodical review of research reports received and processed at the Clearinghouse for Junior College Information

EXPERIMENTAL PROGRAMS IN THE JUNIOR COLLEGE

Experimental programs and junior colleges with commitments to experimentation are currently expanding in number and scope (JC 660-464). This issue of *Junior College Research Review* examines twenty-nine studies made in attempts to define and validate experimental efforts in junior college curricula and in instructional procedures.

Sources: Sixteen of the documents reviewed here were research reports produced by various junior college staff members; seven were graduate seminar papers; four were position papers given at the Seminar on the Experimental Junior College in Palo Alto, California, in February, 1967; and one document was an Occasional Report from the UCLA Junior College Leadership Program (JC 660-464). A program design, presented at a Regional Conference of the Union for Research and Experimentation in Denver, Colorado, in December, 1966, is also included (JC 670-230).

Methodology: The studies included in this issue vary widely in purpose, content, and findings, but each falls into one of the following general categories: (1) a status study of experimental programs at other institutions; (2) a summary statement of rationale provided and procedures followed in the establishment of an experimental program; (3) an evaluation study of comparative instructional approaches; and (4) a controlled experimental research project.

Eight of the studies surveyed the field and reported on experimental programs in operation in junior colleges. Eight documents summarized institutional efforts and procedures which resulted in experimental programs in particular institutions. Seven documents presented research findings of experimental programs for low-ability junior college students. One document developed a conceptual model for an instructional quality control system (JC 670-211). Another study compared two groups of college students identified as "creative" (JC 670-125). Two studies were evaluation projects to determine the effectiveness of instructional television. Summaries of findings of two experimental programs are included – one determined the effectiveness of large classes in the teaching of writing skills (JC 660-101) and another evaluated a program in engineering and design data processing (JC 660-235).

Review: An experimental approach was used by Williamsport Area Community College in its evaluation of instructor-operated educational television (JC 660-236). The study was designed to measure the effectiveness of television as a method of teaching selected subjects in the electronics technology program. The two-year research period was designed to test the hypothesis that students learning by television would perform at a higher level than would comparable students learning in a face-to-face situation. The research project utilized two experimental groups and a control group. Every eight weeks, experimental groups were rotated between television and live instruction. No significant difference in students' learning of mathematics, slide-rule operation, general physics, and election theory was found.

Golden West College (JC 670-205) developed an audio-tutorial course in liberal-arts biology by following these methodological steps:

1) Defining each goal in measurable terms.
2) Establishing a hierarchy of goals for greatest emphasis in the course.
3) Determining the time to be given each unit, or goal.
4) Arranging units in sequence – weekly where possible.
5) Determining the best way to achieve the objective of each unit without regard to mechanics of budget, schedule, or staffing.
6) Assessing realistically the obstacles to established objectives, and finding ways to achieve the objectives within the limitations always inherent.
7) Recording tapes, writing and preparing workbooks and laboratory materials.
8) Securing from the director of institutional research an identification of the kinds of data which must be assembled to assure adequate evaluation of the program from its inception.

The Golden West report is of particular value because it spells out the steps involved in constructing courses designed to lead to specific, measurable outcomes. The study also provides a suggestion for continuous evaluation.

An experimental study to determine the effectiveness of teaching clinical nursing by closed-circuit television at Bronx Community College (JC 660-237) produced the following findings:

1) Closed-circuit television instruction provides for greater patient safety.
2) There is no measurable student resistance to teaching and learning via closed-circuit television.
3) Instructors are less positively inclined to TV because adapting to a new system of instruction necessitates modifications of teaching techniques.
4) The responses of hospital personnel (doctors, supervisors, head nurses, RN's, LPN's, nurse's aides, and ward clerks) indicates that they did not feel that closed-circuit television jeopardized normal hospital operation.

The Bronx study produced an interesting cost

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analysis – teaching all students by closed-circuit television would permit a nursing class of 100 students and 10 clinical instructors to increase student capacity to 150 without increasing the instructional staff. Using a desired 10-1 student-teacher ratio, the instructor salaries saved in a single year would exceed the total cost of the closed-circuit television system.

The findings of an experimental project for low-ability students at Los Angeles City College (JC 660-045) resulted in a specific program alteration. Evidence gained from the experimental program demonstrated that although progress was made in raising the reading level of the students involved in the program, not enough progress could be realized in a semester or a year to enable the student to move into regular college classes with a reasonable chance of success. Since most of the low-ability students did not continue in the college for more than one academic year, it was decided to emphasize those things which would help the student to know himself and his potential better, to help him accept realistic vocational goals, and to help him become a better citizen. Based on specific research findings, the focus of the program for low-ability students was shifted from remediation to general education.

A research study to determine whether large classes are conducive to effective learning in the writing skills was recently completed at Indian River Junior College (JC 660-101). Although there was some variation in student preferences, the results of the pre-test and the post-test show that, given the same quality of instructors, program, and students involved in this experiment, class size up to 56 students is not a significant variable in the learning of writing skills.

Conclusions: Great interest in experimental programs is evidenced by the quantity of documents received on the subject. The Seminar, held at Palo Alto in February, 1967, and the National Conference on the Experimental Junior College, to be held at UCLA in July, 1967, are other indications of current levels of concern.

In his speech at the Seminar, John Lombardi said, "Innovation has become as important a concept among educators today as general education was a generation or so ago. An extension of the concept of innovation is the 'experimental' college or division which embraces a wider field than does innovation" (JC 670-231, p. 1). Yet, in the same paper, Dr. Lombardi emphasized that some colleges which are called "experimental" are experimental in name only, while others which are not considered experimental are, in fact, experimenting constantly.

However, few studies have been received that relate to "institutional experimentation" in the area of instructional improvement. More specifically, there has long been reluctance to examine the proposition that the effectiveness of an educational program must be measured in terms of the results accomplished. In 1963, B. Lamar Johnson found that "few junior colleges have initiated plans of appraisal and may be designated as 'islands of innovation' in evaluation" (JC 660-464, p. 13).

In a recent survey (JC 670-211) to determine the extent to which California junior colleges are attempting to assess the quality of their instructional system in a systematic fashion, the following were concluded:

1) California junior colleges name the improvement of the quality and effectiveness of instruction as the number-one priority item on their list of needs.

2) In no California junior college is the control of that quality a systematic enterprise based on examination of student changes following instruction.

3) In spite of the numbers of statements of need for improved instructional evaluation, little change or innovation in evaluation has taken place or is planned for the near future.

That paper also proposed a model for an instructional quality control system in the junior college – one which could be of value to those institutions choosing to assess results of their endeavors in terms of student change. There is need for more research and "experimentation" in this vital area.

John E. Roueche

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